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EXAMINER

CHEA, THORL

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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DETAILED ACTION

1. This office action is responsive to the communication on July 7, 2008; claims 1-6, 8-27 are pending; claim 7 has been canceled.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 18-20, 22-27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification as originally filed fails to provide support for the limitation “photosensitive silver halide has core/shell structure and the core contains at least two metal complexes in which the metal or the .metals included the metal complexes are selected from the group consisting of rhodium, rhenium, ruthenium. Osmium and iridium” in claims 18, 22, 25; wherein the shell contains at least one metal complexes in which the metal complex is selected from the group consisting of rhodium, rhenium, ruthenium. Osmium and iridium in claims 20, 24, 27.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6, 8-20, 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al (US Patent No. 6,150,084) in view of either JP11-149136 (JP'136) or Adin et al (US Patent No. 6,054,260).

Ito et al discloses a photothermographic material containing non-photosensitive silver halide, photosensitive silver halide, reducing agent for silver ions and binder and the compound of formula (1) to (3) claimed in the present claimed invention, and the amount thereof is within 1×10^{-6} mol to 1 mol/mol of silver halide. Note to the compound of formula (1) to (3) in column 18 and the amount thereof in column 33, lines 22-25. The silver salt of a long chain aliphatic acids having 15 to 30 carbon atoms, especially 15 to 28 carbon atoms and the bisphenol reducing agent are disclosed in column 4, lines 5-28 and column 14, lines 52-57 respectively. The silver salt of aliphatic acid having silver behenate content at least 95 mole % and bisphenol reducing agent are preferred. The silver halide grains include those having core/shell structure and may contain any metals or metal complexes belong to group VII and VIII in the Periodic Table such as rhodium, rhenium, osmium and iridium;. See columns 9-10.

The JP'136 discloses a heat-developable material containing non-photosensitive silver halide, photosensitive silver halide, reducing agent for silver ions and binder and the compound exemplified in the present application disclosure which is within the scope of formula (I) claimed in the present invention, and the amount thereof is from 1×10^{-6} mol to 1 mole/mol of silver halide. See the compound in column 1 (or Its English equivalent, US Patent No. 6,177,240, in columns 7-24; and in column 26, lines 37-40). This compound is within the scope of formula (I), which contains nitrogen containing heterocyclic compound, and the functional groups such

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as $-C_0M$ which is within the scope of A-B of the formula (I). The compound provide photothermographic material high in D_{max} and sensitivity, enhanced enough in contrast, small in photographic performance due to fluctuation of development conditions and superior in effect of restraining dependence on development condition.

Adin discloses a spectrally sensitize within the scope of formula (I) of the claimed invention, and the amount thereof is from 1×10^{-8} to 2×10^{-3} mol per mol of silver in the emulsion layer. The compound is capable of enhancing both intrinsic sensitivity and the spectrally sensitivity of the silver halide emulsion, and the activity of the compound can be easily varied with substituents to control their speed and fog effects in a manner appropriate to the particular silver halide in which they are used. Note to the compound in column 4, especially lines 26-38 and 55-65, and the amount thereof in column 60, lines 5-18.

Ito et al disclose a photothermographic material containing a compound of formula in (iv) of formula (1) to (3), the silver salt of an aliphatic acid having especially 15 to 28 carbon atoms and the bisphenol reducing agent, except the compound of formula (I). However, the compound of formula (I) has been known in JP'136 and Adin et al.

It would have been obvious to the worker of ordinary skill in the art at the time the invention was made to use the compound taught in JP'136 to provide the photothermographic material with high in D_{max} and sensitivity, enhanced enough in contrast, small in photographic performance due to fluctuation of development conditions and superior in effect of restraining dependence on development condition, or the compound taught in Adin in the material taught in Ito enhance both intrinsic sensitivity and the spectrally sensitivity of the silver halide emulsion to provide the invention as claimed. The properties of the compound inherently meets the

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conditions (i) to (iii) presented in the claimed invention are considered as inherently associated with the compound of formula (1) to (3) of Ito et al since same compound would have similar properties. "product of identical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if prior art teaches the identical chemical structure, the properties applicants disclosed and/or claims are necessarily present. *In re Spada*, 91 1 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990)."

The claiming of the use of the silver halide that has a core/shell structure and the core contains at least two metal complexes in which the metal included in the metal complexes are selected from the group consisting of rhodium, rhenium, ruthenium, osmium and iridium" would have been found *prima facie* obvious to the art since Ito et al suggest the use of silver halide core/shell grains and the metal complexes such as shown in the above description. It would have been obvious to the worker of ordinary skill in the art at the time the invention was made to dope the silver halide core/shell with the metal complexes disclosed therein to increase the sensitivity thereof, and thereby provide a material as claimed.

6. Claims 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al (US Patent No. 6,150,084) in view of either JP11-149136 (JP'136) or Adin et al (US Patent No. 6,054,260) further in view of Inoue et al (US 6,100,022). The teachings of Ito et al, JP'136 and Adin et al are as shown in paragraph 5 above. Inoue et al in column 9, lines 15-36 discloses the use of the metal ion such as Zn to the non-photosensitive silver salt to improve the print-out property of the photothermographic material. It would have been obvious to the worker of ordinary skill in the art at the time the invention was made to use added the material ion

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including Zn to improve the print-out property of the mage, and thereby provide a material as claimed.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1-6, 7-27 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 6,764,816 (Ohzeki) in view of either Ito et al (US Patent No. 6,150,084) or Inoue et al (US 6,100,022). Ito discloses the compound of group (iv) has been known as nucleating agent and taught in Ito in column 18, compounds (1), (2), (3); the silver halide core/shell and the metal complexes. Inoue discloses the Zn metal ion in the silver salt of an organic acid. It would have been obvious to the worker of ordinary skill in the art at time the invention was made to use the nucleating agent taught in Ito to improve the image contrast of the material claimed in the '816 patent; the use of silver halide core/shell grains in combination with the use of metal complexes to increase the sensitivity of the material; and the use of the Zn metal ion to improve the image print-out, and thereby provide an invention as claimed.

Response to Arguments

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9. Applicant's arguments filed July 7, 2007 have been fully considered but they are not persuasive for the reason set forth in the rejection above. The applicants argue that the worker of ordinary skill in the art find no motivation to use combine the prior art provided in the Office Action of record since the prima facie case is not met "teaching, suggestion or motivational test". The rejections on obviousness ground cannot be sustained by mere conclusory statement; instead; there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. The applicants further argue that The present claims require that the substituents in Formula I meet the following limitations: X is a silver halide adsorption group or light absorption group which contains at least one atom of N, S, P, Se or Te, L represents a $(k + n)$ -valent bridging group containing at least one nitrogen atom (e.g. claim 1), A represents an electron-donating group, B represents a leaving group containing a $-\text{COO}-$ group (e.g. claim 1), A-B is dissociated or deprotonated after oxidation to generate a radical A', k represents 0-3, m represents 0 or 1, and n represents 1 or 2, provided that when $k = 0$ and $n = 1$, $m = 0$. Applicant respectfully submits that the prior art of record fails to teach or suggest to a photothermographic material as presently claimed. For this reason alone, the present rejection should be withdrawn.

The compound of formula (I) contains (X), (L), (A-B). The content of (X), (L) and $-(\text{A-B})$ in the compound structure depends on K, m, and n wherein k id from 0-3, m is 0 or 1 and n is 1 or 2; and when $k=0$ and $n=1$, $m = 0$. When $k=0$ and $n=1$, $m = 0$, the formula (I) is (A-B). B is $-\text{COO}-$ group, and A is electron donative group, the groups that exemplified on page 23, as (A-1), (A-2) and (A-3), and pages 26-28; namely the group (A-B) is represented by the exemplified compound on pages 29-31. The scope of the (A-B) group of the compound claimed in the Table

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of the JP'136 which contains a -COO- group and the A group exemplified in the in the specification disclosure such as group (A-3) which contains a ring structure which includes 5- to 7-membered ring and heterocyclic ring. Therefore, the compound of formula (I) is taught in JP'136. JP'136 discloses the compound of formula (I) when $k = 1$, $m = 1$ and n is 1. See for instance the compound (76) of JP'136 which contains an heterocyclic group having property as silver halide absorbing group and the group, the aromatic ring and (-COO-). These compounds provide a heat-developable material with high Dmax and sensitivity, and enhance enough contrast, small in photographic performance due to fluctuation of development condition and superior in effect of restraining dependence on development condition. Therefore, the worker of ordinary skill in the art at the time the invention was made to use the compound taught in JP'136 to provide the material taught in Ito et al to achieve such results.

The argument with the unexpected results is not persuasive for the reason set forth in the previous office action. The results are not commensurate with the scope of the claimed invention. The applicants are referred to the composition of the material claimed in claims 1, 21 and 25 in comparison with the comparative samples presented in the Declaration and the results shown in Tables 13 and 14 of the specification disclosure. The results are related to the use of the compounds "95" of JP'136; the compound I-62, I-84, I-34, I-35, I-47 and I-91 exemplified in the specification disclosure. Note to the scope of the compounds "95" of JP'136, I-62, I-84, I-34, I-35, I-47 and I-91 in comparison with the scope of the compound of formula (I). The compound 95 of JP'136, 47, 91 contains -COCOAg. The compounds I-26 and I-34 contains -COOH; and the compound I-35 contains no -COO-group. The compounds of formula (I) is so broad and encompasses the scope beyond the compound having formulae '95 of JP'136 and the

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compound of formula -62, I-84, I-34, I-35, I-47 and I-91 presented in the Declaration and those in Tables 13 and 14. See also the response to argument presented in the office action on January 7, 2008.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thorl Chea whose telephone number is (571) 272-1328. The examiner can normally be reached on 9 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571)272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T,C./
September 17, 2008

/Thorl Chea/
Primary Examiner, Art Unit 1795